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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/049,673	03/15/2002	Willy Marrecan	016782-0244	7702
22428	7590	01/27/2005	EXAMINER	
FOLEY AND LARDNER SUITE 500 3000 K STREET NW WASHINGTON, DC 20007			TRAN, DIEM T	
			ART UNIT	PAPER NUMBER
			3748	

DATE MAILED: 01/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/049,673

Applicant(s)

MARRECAU, WILLY

Examiner

Diem Tran

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11/12/04
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2,4-8,10,12 and 14-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-8,10,12 and 14-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

This office action is in response to the amendment filed on 11/12/04. In this amendment, claims 28-30 have been added. Therefore, claims 1, 2, 4-8, 10, 12, 14-30 are pending in this application.

#### *Claim Rejections - 35 USC § 112*

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 28-30 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In claims 28-30 of the amendment filed on 11/12/04, the applicants added the claimed limitation *“exhaust flow is directed in a first direction with respect to said membrane during use of said membrane as a filter, and wherein fuel flow is directed in a second direction substantially opposite to said first direction with respect to said membrane during use of said membrane as a surface combustion burner membrane”* is considered new matter since the originally filed disclosure does not contain any support for the invention as now claimed.

The amendment filed 11/12/04 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention.

Applicant is required to cancel the new matter in the reply to this Office Action.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

***Claims 20, 23, 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Stark (US Patent 4,373,330).***

Regarding claims 20, 23, 24, Stark discloses an exhaust particulate filter system, comprising:

a first fiber web filter (26) for filtering an exhaust flow;

a second fiber web filter (26a) for filtering said exhaust flow; a fuel supply coupled to said first and second fiber web filter (see Figure 1, col. 3, lines 39-50);

a valve unit (18) configured to direct said exhaust flow to said first or second fiber web filter when directing fuel to said second or first fiber web filter to have said second or first fiber web filter function as a second or first surface combustion burner membrane (see col. 6, lines 1-38).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

***Claims 1, 2, 4-7, 10, 12, 14-17, 21, 22, 25, 26 are rejected under 35 U.S.C. 103(a) as unpatentable over Stark (US Patent 4,373,330) in view of Frankenberg et al. (US patent 4,449,362).***

Regarding claims 1, 2, 16, 17, Stark discloses a method of regeneration a filter of diesel exhaust particulate filter system, said method comprising as steps:

providing a porous membrane in the form of a metal fiber web; using said membrane as filter during a filtration period; and using said membrane as a surface combustion burner membrane during a regeneration period (see col. 3, lines 12-19, 24-26, col. 6, lines 1-38); however, fails to disclose suggesting the use of stainless steel for the fiber web. Frankenberg teaches that it is conventional in the art, to use stainless steel for the fiber web (see col. 4, lines 13-21).

It would have been obvious to one having ordinary skill in the art to utilize stainless steel in that, such type of steel is resistant to corrosion caused by the exhaust gases.

Regarding claims 4, 5, 10, Stark further discloses the step of providing fuel to said membrane during the regeneration period (see col. 3, lines 39-50).

Regarding claims 6, 12, 14, 15, Stark further discloses the step monitoring a pressure across said membrane during the filtration period (see col. 4, lines 1-5).

Regarding claim 7, Stark further discloses the step of generating a control signal to regenerate said membrane, once the pressure across said membrane exceeds a predetermined level (see col. 7, lines 8-20).

Regarding claims 21, 22, Stark discloses all the claimed limitations as discussed in claim 20 above, however, fails to disclose suggesting the use of stainless steel for the fiber web. Frankenberg teaches that it is conventional in the art, to use stainless steel for the fiber web (see col. 4, lines 13-21).

It would have been obvious to one having ordinary skill in the art to utilize stainless steel in that, such type of steel is resistant to corrosion caused by the exhaust gases.

Regarding claims 25, 26, the modified Stark method discloses all the claimed limitations as discussed in claims 1, 2 above; however, fails to disclose said porous membrane in the form of a stainless steel fiber web of a Fe-Cr-Al alloy.

It is well known to those with ordinary skill in the art that a stainless steel fiber web is formed of a Fe-Cr-Al alloy. Therefore, such disclosure by Tokuda et al. is notoriously well known in the art so as to be proper for official notice.

***Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stark (US Patent 4,373,330) in view of Frankenberg et al. (US patent 4,449,362) as applied to claim 4 above, in view of Shinzawa et al. (US Patent 4,567,725).***

The modified Stark method discloses all the claimed limitations as discussed in claim 4 above, however, fails to disclose that the amount of fuel provided is reduced after initiation of a flame at said filter during said regeneration period. Shinzawa teaches that it is conventional in

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the art, to reduce the amount of fuel provided after initiation of a flame at said filter during said regeneration period (see col. 19, lines 7-10).

It would have been obvious to one having ordinary skill in the art at the time the invention was made, to have reduced the amount of fuel as taught by Shinzawa in the modified Stark method for decreasing the amount of fuel consumption during the regeneration process.

***Claims 18, 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stark (US Patent 4,373,330) in view of Frankenberg et al. (US patent 4,449,362) as applied to claims 1, 2 above, in view of design choice.***

Regarding claims 18, 19, the modified Stark method discloses all the claimed limitations as discussed in claims 1, 2 above; however, fails to disclose said fiber web having fiber diameter of about 22 micrometers.

Regarding to the diameter of the fiber web of about 22 micrometers would have been an obvious matter of design choice well within the level of ordinary skill in the art, depending on variables such as material of the filter, mass flow rate of the exhaust gas, condition of the filter as well as the engine operation condition. Moreover, there is nothing in the record which establishes that the claimed time period parameters present a novel or unexpected result (See In re Kuhle, 562 F. 2d 553, 188 USPQ 7 (CCPA 1975)).

***Claim 27 is rejected under 35 U.S.C. 103(a) as unpatentable over Stark (US Patent 4,373,330).***

Stark discloses all the claimed limitations as discussed in claim 20 above; however, fails to disclose said porous membrane in the form of a stainless steel fiber web of a Fe-Cr-Al alloy.

It is well known to those with ordinary skill in the art that a stainless steel fiber web is formed of a Fe-Cr-Al alloy. Therefore, such disclosure by Stark is notoriously well known in the art so as to be proper for official notice.

### ***Response to Arguments***

Applicant's arguments filed on 11/12/04 have been fully considered and a new non-final rejection is set forth above.

### ***Conclusion***

Any inquiry concerning this communication from the examiner should be directed to Examiner Diem Tran whose telephone number is (571) 272-4866. The examiner can normally be reached on Monday -Friday from 8:30 a.m. - 5:00p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion, can be reached on (571) 272-4859. The fax number for this group is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the



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Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Diem Tran  
Patent Examiner  
Art unit 3748

DT

January 21, 2005



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